BULL. BOT. SURV. INDIA
Vol. 2, Nos. 3 & 4: pp. 321-322, 1960

A NOTE ON *ALEURITOPTERIS GRISEA* (BLANFORD) PANIGRAHI COMB. NOV. AND *A. ANCEPS* (BLANFORD) PANIGRAHI COMB. NOV.

G. Panigrahi
Regional Botanist, Eastern Circle, Botanical Survey of India, Shillong

ABSTRACT

The "Silver Ferns" of Asia and Africa are ascribed correctly to *Aleuritopteris farinosa* (Forsk.) Fée complex. Within the scope of this complex three taxonomic entities are recognised out of which two, viz. *A. grisea* (Blanford) Panigrahi Comb. nov. and *A. anceps* (Blanford) Panigrahi Comb. nov. are new species combinations. Cytology of the species and existence of F_1 sterility in them have been indicated.

The herbarium specimens identified to these two species and located in the Herbarium of British Museum (Nat. Hist.), London, Royal Botanic Garden, Edinburgh and Rijksherbarium, Leiden, have been cited.

"The Silver Ferns" of Asia and Africa are generally attributed by taxonomists to *Cheilanthes farinosa* (Forsk.) Kaulf. (Enum. 212. 1824.). However, the genus, *Cheilanthes* Sw. (Swartz, Synop. Filicum, 1806, 5, 126) is based on the type species *Cheilanthes micropteris* Sw., collected from Equador, South America, whereas the genus, *Aleuritopteris* Fée (Genera Filicum, 1850-'52, Pl. 12B, f. 1, 2) is founded on the type species, *Pteris farinosa* Forsk. (Fl. Aeg—Arab. 187. 1775.) collected from African and Asiatic regions. Blanford (1886) and other taxonomists working on the Silver ferns of India and neighbouring regions have followed Kaulfuss and described their specimens as *Cheilanthes farinosa* (Forsk.) Kaulf. However, on the authority of the 'Type Method', the plants belonging to *Pteris farinosa* Forsk. should strictly be attributed to *Aleuritopteris* Fée rather than to *Cheilanthes* Sw. (Panigrahi, 1955). This procedure has already been adopted by Ching (1941) and Copeland (1947) who have described the *Cheilanthes farinosa* of authors under *Aleuritopteris farinosa* (Forsk.) Fée.

However, evidences from various lines of study are available to suggest (Panigrahi, 1954) that within the scope of *A. farinosa* (Forsk.) Fée complex, at least three taxonomic entities must be recognised out of which two species are new combinations, as proposed below:—

1. **Aleuritopteris grisea** (Blanford) Panigrahi Comb. nov.

Basinym: *Cheilanthes farinosa* (Forsk.) Kaulf. var. *grisea* Blanford.
J. asiat. Soc. Beng. **57**, pt. II (4): 250-251, 1888.

Synonyms: *C. grisea* Blanford, in the Silver ferns (*Cheilanthes*) of Simla and their allies, read before *Simla nat. Hist. Soc.* 25/6/1886.

C. farinosa (Forsk.) Kaulf. (in part)

Aleuritopteris farinosa var. *grisea* (Blanford) Ching, *Hong Kong Nat.* **31:** 194, 1941.

Type specimen collected by H. F. Blanford on 22-8-1885 from Nannanda, 8500′ in N. W. Himalayas is deposited in Kew Herbarium. Other specimens identified to this species are:—

Herbarium of the British Museum (Natural History), London.

3642. J. F. Duthie, (Kumaon); 7. McDonnel, (Punjab); 18197.—(Bhutan); 3854.—(S. E. Tibet); 15320. R. C. Ching (Yunnan).

Herbarium Royal Botanic Garden, Edinburgh.

125013. A. Henry (Yunnan, 5000 ft.).

Rijksherbarium, Leiden.

908325—880. G. Mann (Khasia Hills). It is a diploid species with n = 30 (Manton and Sledge, 1954).

2. **Aleuritopteris anceps** (Blanford) Panigrahi Comb. nov.

Basinym: *Cheilanthes farinosa* (Forsk.) Kaulf. var. *anceps* Blanford
J. asiat. Soc. Beng. **57**, pt. II (4): 249, 1888.

Synonyms: *C. anceps* Blanford, in the Silver ferns (*Cheilanthes*) of Simla and their allies, read before *Simla nat. Hist. Soc.* 25/6/1886.

C. farinosa (Forsk.) Kaulf. (in part).

A. farinosa var. *anceps* (Blanford) Ching, in Hong Kong nat. 31: 194, 1941.

Type specimen—not seen.

Other specimens:

Herbarium of British Museum (Nat. Hist.), London.

H. E. Richardson (Tibet, 60 miles north of Lhasa, 12500′); 15302 & 11784. R. C. Ching (Yunnan); 7529. G. Sherriff (Sutlej valley, Punjab, 7000′); 8500.—(Nagkand, N. W. Himalayas); A. Campbell (Mussorie, 3500′); 53-Ind. Orient Choratta country near Hot bath); 542 and 1044. Lodlow and Sheriff (Dewangiri-Bhutan, 2000′); 3662. Schelpe (Kalimpong, 3900′); 1168. J. Fraser (Rambodde, 5000′, Ceylon); 80-Ceylon; 5142. Duthie (Saharanpur); 23189. J. Nayat (Hazara, N. W.

Himalayas); Trotter (Mussorie, 4000′); 71. Dr. Wallich (Nepalia); 2224. Javanica.

Herbarium Royal Botanic Garden, Edinburgh.

Blanford (Mussorie 4500′).

Rijksherbarium, Leiden.

908339-928.—(Madras); 94264-916.—(Khandala 600 m. India); 908324-871.—(Java); 908335-771.—(Philippines).

It is a tetraploid species with $n = 58$ (Manton & Sledge, 1954 under *C. farinosa*) and forms F_1 sterile hybrids when artificially crossed with *A. grisea*, (Panigrahi, 1954).

ACKNOWLEDGEMENT

Grateful thanks are due to late A. H. G. Alston of the British Museum (Nat. Hist.), London for advice on the nomenclatural points discussed in this note.

LITERATURE CITED

1. Blanford, H.—Silver Ferns of Simla and their allies read before *Simla nat. Hist. Soc.*, **25/6/1886**.
2. —— *Cheilanthes farinosa* (Forsk.) Kaulf. var. *grisea* Blanford *J. asiat. Soc. Beng*, **57**, pt. II (4): 250-251, **1888**.
3. Ching, R. C.—The Studies of Chinese Ferns, XXXI. *Aleuritopteris* Fée. *Hong Kong Nat.*, **10**: 194-204, **1941**.
4. Copeland, E. B.—Genera Filicum. Waltham, Mass., **1947**.
5. Manton, I. & Sledge, W. A.—Observations on the cytology and taxonomy of Pteridophyte flora of Ceylon. *Phil Trans.* (B), **238**: 127-185, **1954**.
6. Panigrahi, G.—Cytological and taxonomic observations on *Aleuritopteris farinosa* (Forsk.) Fée complex. Ph. D. Thesis, (in part) Leeds University, 1954.
7. —— The gametophyte of *Aleuritopteris grisea* (Blanford) Panigrahi Comb. nov. *Proc. nat. Inst. Sci. India*, **21B**, 143-146, **1955**.